

### **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A signal processing method comprising:

an overwriting step of overwriting an LUT written into a table storage area with another LUT, in accordance with a ~~the~~ content of each of a plurality of processes executed to a first signal or a second signal; and

a synthesizing step of performing a process corresponding to a ~~the~~ content of the ~~overwritten another~~ LUT for the first signal or the second signal each time ~~the content of the~~ LUT in the table storage area is overwritten and synthesizing the processed first ~~digital~~-signal and the second processed ~~digital~~-signal.

2. (Currently amended) The signal processing method according to claim 1, wherein the synthesizing step comprises:

a step of writing a first LUT for gray-scale correction of the first signal into the table storage area;

a step of performing gray-scale correction on the first signal by using the first LUT for gray-scale correction written into the table storage area;

a step of overwriting the table storage area where the first LUT for gray-scale correction is overwritten with ~~the~~ a second LUT for gray-scale correction of the second signal;

a step of performing gray-scale correction on the second signal by using the second LUT for gray-scale correction written into the table storage area;

a step of overwriting the table storage area where the second LUT for gray-scale correction is overwritten with a weighting LUT for signal synthesis; and

a step of synthesizing the first signal and the second signal by using the weighting LUT for signal synthesis written into the table storage area.

3. (Currently amended) A signal processor circuit comprising:

a table storage area, ~~which stores~~ for storing an LUT;

a table overwriter, ~~which overwrites an~~ for overwriting the LUT written into the table storage area with another LUT; and

an arithmetic operator, ~~which performs~~ for performing arithmetic operation on a first digital signal or a second digital signal based on the LUT written into the table storage area each time an LUT is written into the table storage area, and ~~synthesizes~~ synthesizing the first digital signal and the second digital signal.

4. (Original) The signal processor circuit according to claim 3,

wherein the arithmetic operator performs gray-scale correction on the first digital signal by using an LUT for gray-scale correction of the first digital signal written into the table storage area,

performs gray-scale correction on the second signal by using an LUT for gray-scale correction of the second digital signal written into said table storage area, and

synthesizes the first digital signal and the second digital signal by using a weighting LUT for signal synthesis written into the table storage area.

5. (Currently amended) Imaging apparatus comprising:

an imaging element, which includes a plurality of first photoreceptor elements and second photoreceptor elements respectively each having a first photoreceptive area and a second photoreceptive area having different sensitivities;

an A/D converter circuit, which performs A/D conversion on a first analog signal including a plurality of output signals output from the first photoreceptor devices and a second analog signal including a plurality of output signals output from the second photoreceptor devices to generate a first digital signal and a second digital signal; and

a signal processor circuit, which performs a plurality of processes on the first digital signal and the second digital signal to generate image data;

wherein the signal processor circuit comprises:

a table storage area, ~~which stores~~ for storing an LUT;

a table overwriter, ~~which overwrites~~ for overwriting an LUT written into the table storage area with another LUT; and

an arithmetic operator, ~~which performs~~ for performing arithmetic operation on-a the first digital signal or-a the second digital signal based on the LUT written into the table storage area each time an LUT is written into the table storage area, and-synthesizes synthesizing the first digital signal and the second digital signal.

6. (Currently amended) The imaging apparatus according to claim 5, comprising

a controller, ~~which generates~~ for generating the LUT based on the first digital signal or the second digital signal, and

a memory, ~~which stores~~ for storing the LUT generated by the controller, wherein the table overwriter overwrites the LUT ~~stored in the memory~~ written into the table storage area with the stored LUT.

7. (Original) The imaging apparatus according to claim 5 or 6, wherein the LUTs are an LUT for gray-scale correction of the first digital signal, an LUT for gray-scale correction of the second digital signal and a weighting LUT for signal synthesis.

8. (Currently amended) The imaging apparatus according to claim ~~7~~ 5 or 6, wherein the signal processor circuit performs gray-scale correction on the first digital signal by using an LUT for gray-scale correction of the first digital signal written into the table storage area, performs gray-scale correction on the second signal by using an LUT for gray-scale correction of the second digital signal written into the table storage area, and synthesizes the first digital signal and the second digital signal by using ~~the~~ a weighting LUT for signal synthesis written into the table storage area.